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Response to Final action mailed 03/24/2005

### Remarks

This response is being filed pursuant to 37 CFR 1.34. A new Appointment of Agent will be filed shortly under separate cover.

In view of the formal objections to the specification and abstract, the abstract has been amended to correct the grammar and the FIG. 2 has been correctly referenced as FIG. 2A or 2B in the noted passages as appropriate. It is believed that this amendment deals with the objection to the specification, but if any outstanding formality objections remain, the Examiner is kindly requested to telephone the undersigned.

A minor correction has been made to claim 14.

The Examiner is respectfully requested to reconsider his objections in the Final Action because in the applicant's respectful submission the Examiner has failed to meet the burden of establishing anticipation under 35 USC 102 in accordance with the caselaw. For the reasons set forth in more detail below, should an appeal become necessary, the applicant does not believe that the Board of Appeals would consider that the Examiner has satisfied the burden of meeting the strict requirements imposed by 35 USC 102(b), where each and every claim element must be clearly recited in a single prior art document, either inherently or expressly. In the applicant's respectful submission, the Examiner's rejections, so far as they can be understood, do not stand up to detailed scrutiny.

Firstly, however, the Examiner's assertion is the applicant's detailed explanation of the amendments in the previous response does not comply with 37 CFR 1.111 (c) is respectfully traversed. Claim 1 *inter alia* contains the limitation of "inserting a diagnostic cell into an active data stream ..." A diagnostic cell is by definition a "specialized" cell. A detailed explanation of how Minami does not disclose this feature, but "only teaches the counting of cells of ordinary data traffic" then follows. The feature is inserting a diagnostic cell (inherently a specialized cell) is clearly present in claims 1 and 7, and the Examiner's objection that applicant's argument does not reflect the claim language is not understood. The only difference between the claim language and the language used in the argument is the presence of the qualifier *specialized*, which is merely an ordinary description of what a diagnostic cell is.

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The applicant is entitled to be his own lexicographer. *In re Hill*, 73 USPQ 483. The inventor's definition and explanation and meaning of a word, as evidenced by the specification, controls the interpretation of that claim term". *Serrano v Telular Corp.* 42 USPQ2d 1583. In the present specification, in the paragraph commencing on page 12, line 3, the applicant clearly states a "diagnostic cell" can be "any type of cell that can be distinguished from a customer cell". Thus, in accordance with the applicant's teaching a *diagnostic* cell, while inherently being capable of providing a *diagnostic* function must also be distinguished from a customer cell. Claim 1 *inter alia* calls for the step of "inserting a diagnostic cell into an active data traffic stream". With regard to the expression "active data traffic stream", the heavy presumption is in favour of the ordinary meaning of claim language as understood by one of ordinary skill in the art. *Bell Atl. Network Serv. Inc v. Covad Comm. Group Inc.* 59 USPQ2d 1865. It is clear in context to one of ordinary skill in the art that the active data traffic stream consists of the normal customer data traffic into which the diagnostic cells (inherently special) are inserted. The diagnostic cells must be distinguishable from the active data traffic. Claim 1 also includes the feature of providing a first counter module recognizing when a diagnostic cell passes.

In order to meet the test of anticipation, it is essential that

"each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987).

The Federal Circuit has also stated:

"An anticipating reference must describe the patented subject matter with sufficient clarity and detail to establish that the subject matter existed and that its existence was recognized persons of ordinary skill in the field of the invention". *ATD Corp. v. Lydall, Inc.*, 48 USPQ 2d 1321.

Minami describes an exchange with a fault monitor unit 101c that counts passing cells forming part of the active data stream. There is no teaching of the step of inserting diagnostic cells, which are distinguishable from customer cells, and recognizing and tracking the diagnostic cells. The summary of invention in column 3 summarizes the overall teachings of Minami, and makes it quite clear that Minami counts passing cells on a per-connection basis and detects and counts cell

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bit errors, but there is no teaching of tracking diagnostic cells that are inserted into the data stream. Minami counts all passing cells. The applicant is only obliged to address the specific claim rejections made by the Examiner.

The Examiner has rejected claim 1 under 35 USC 102 (b). Clearly, Minami does not meet the test set forth in the above-cited caselaw because it fails to teach *inter alia* the inserting diagnostic cells into an active data stream, recognizing the diagnostic cells (as distinct from the other cells in the data stream) and counting the diagnostic cells. The passing cell counter 101p in the fault monitor 101c counts all the cells passing including customer cells through it, not just certain cells recognized as diagnostic cells. A reasonable person skilled in the art would regard this element as the element most closely resembling the diagnostic cell counter module in claim 1.

Despite the fact that claim 1 clearly recites *inter alia* the steps of inserting *diagnostic* cells into an active traffic stream, and tracking such cells with the *diagnostic* cell counter module, nowhere in either office action has the Examiner indicated to the applicant what cells in Minami he considers to constitute the diagnostic cells recited in claim 1. Minami does not use the term "diagnostic cells", and it is not clear to a person of ordinary skill on reading Minami what cells in Minami might satisfy the requirement for such cells recited in claim 1 that is consistent with the ordinary meaning of the term *diagnostic* and the additional definition provided on page 12 of the specification. As noted by the Federal circuit:

" The process of patent examination is an interactive one. *See generally*, Chisum, *Patents*, Section 11.03 *et seq.* (1992). The examiner cannot sit mum, leaving the applicant to shoot arrows into the dark hoping to somehow hit a secret objection harbored by the examiner. The 'prima facie case' notion, the exact origin of which appears obscure ( *see In re Piasecki*, 745 F.2d 1468, 1472, 233 USPQ 785, 788 (Fed. Cir. 1984)), seemingly was intended to leave no doubt among examiners that they must state clearly and specifically any objections (the *prima facie* case) to patentability, and give the applicant fair opportunity to meet those objections with evidence and argument. *In re Oetiker* (CA FC) 24 USPQ2d 1443.

In the applicant's respectful submission, the Examiner has "sat mum" in terms of explaining what step in Minami corresponds to the diagnostic cell inserting step in claim 1.

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The Examiner has equated the error counter 101 $n$  to the diagnostic cell counter recited in claim 1. This counter does not specifically track or count diagnostic cells. It merely increases its count when the parity verifiers 101 $i$  and 101 $m$  detect errors in the ordinary traffic, including customer cells, passing through the OC3 interface. Such errors are not necessarily correlated with the passage of particular cells.

Parity verifier 101 $i$  subjects the data of the SDH/SONET format to a parity check (see col. 6, lines 10-11). Thus, it appears that parity verifier 101 $i$  does not even count errors in cells as such, but rather in SDH/SONET frames. Parity verifier 101 $m$  performs a check on ATM cell data (col. 6, line 15), which would include customer cells contrary to the definition set forth on page 12 of the specification. There is no teaching that parity verifier 101 $m$  is responsive only to inserted diagnostic cells.

Bearing in mind the strict requirements set forth in *ATD Corp. v. Lydall, Inc.*, 48 USPQ 2d 1321, it is very difficult to see how a reasonable person skilled in the art could regard Minami as clearly teaching steps noted in claim 1 of inserting diagnostic cells in active data traffic, recognizing such cells, and tracking the passage of such cells. To paraphrase a famous passage from the O.J. Simpson trial a few years ago, if the prior art doesn't fit, it can't anticipate.

The applicant, nevertheless, will attempt to see whether, despite the ordinary common sense meaning of the terminology employed in the claims, one could read the teachings of Minami in such a way as to meet the claim limitations. In Minami, an errored cell is part of the active data traffic, which includes customer cells so it could not be regarded as a diagnostic cell as that term is defined in the specification.

An errored cell is also not something that is "inserted into an active data stream" as that term would be ordinarily understood. According to Webster's dictionary, *insert* means "to introduce or cause to be introduced into the body of something". The act of inserting a diagnostic cell clearly requires a positive action. The transformation of a good customer cell into an errored cell could not reasonably be considered as the *insertion* of a cell into the data stream. The errored cell and the unerrored cell are still essentially the same cell.

Moreover, according to Webster's dictionary, diagnostic is derived from diagnosis, for which the most appropriate definition is "determining or analysis of the cause or nature of a problem or

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situation". An inserted diagnostic cell must be a special cell, distinguished from the active data, that is inserted for the purpose of identifying a problem in the network. If artificially one tried to argue that an errored cell was equivalent to a "diagnostic cell", and such an assertion really does not fit the definition, one might try to take the position that it was detected by the parity verifier 101*m* and that the counter tracked its passage. However, the counter 101*n* is also responsive to errors in the SDH/SONET format, so counter 101*n* could not be said to be tracking the passage of such "diagnostic cells".

Moreover, the step of *inserting a diagnostic cell* as recited in claim 1 implies a deliberate and positive act. A person of ordinary skill in the art would not reasonably regard the unwanted conversion of a good data cell into an errored cell as meeting the requirement of "inserting a diagnostic cell into an active data stream". Moreover, even an errored data cell would be considered part of the active data stream; it would not be considered an inserted cell distinguishable from customer cells. Claims have to be interpreted with some degree of reasonableness and common sense. It is not permissible to read more into the prior art than is actually present.

Given that on page 9 of the previous response the applicant stated that "The feature of inserting a specialized diagnostic cell into a communication element carrying normal traffic data is not taught or suggested by Minami", and given that nowhere does Minami use the term "diagnostic cells", it respectfully submitted that it is incumbent on the Examiner to clearly indicate which cells in Minami he considers the diagnostic cells. The applicant should not have to be in the position of speculating as to which cells might be considered to satisfy this claim limitation. The applicant has a right to know what case it has to answer. However, nevertheless engaging in such speculation, possibly one might to regard the intra-office cells (see Fig. 16B) of Minami as the diagnostic cells, since they are cells distinguished from the customer cells, and they appear to be inserted by the equipment into the active data stream. However, there is no teaching in Minami of the step of providing a counter module that tracks the intra-office cells past a first location, neither is there any teaching of analyzing such a counter module to identify a failure location. The error counter 101*n* does not *track* the intra-office cells. In the context of a *counter*, *tracking* must involve *counting*. If a counter tracks something, it must inherently *count* it. In Minami, a fundamental difference is that the intra-office cells merely convey information throughout the

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switch, which is obtained by some other means, e.g. from the error counter 101n; they are not in themselves used as diagnostic cells to locate any faults.

With regard to the step of "analyzing said diagnostic cell counter module to identify said failure location in said datapath", the Examiner has identified the equipment fault and information separating unit 101s. However, this is not connected to the cell error counter 101n, which the Examiner has identified, incorrectly in the applicant's respectful submission, as the diagnostic counter module. The unit 101s cannot be said to be "analyzing said cell counter module" since it is not even connected to it. The unit 101s is connected to the OAM processor 101c for interpreting incoming intra-office cells that are sent out by the intra-office editor of an upstream unit. The unit 101n outputs its information to the intra-office cell editor 101g, which are then output onto the uplink. The intra-office cells of Minami might be considered the closest to the diagnostic cells of the present invention since they are at least inserted into the data stream and there are distinguished from the ordinary data traffic. However, no diagnostic cell counter module is present in Minami that tracks passage of the intra-office cells, nor does Minami teach the step of analyzing the diagnostic cell counter module to identify the failure location.

It is also noted that not only must the prior art disclose all the claim elements, the prior art reference must disclose each claim element as "arranged in the claim" *Lindermann Maschinenfabrik GmbH v. American Hoist & Derrick Co.* 221 USPQ 481.

Claim 7 is a system claim that claims limitations similar to the step limitations in method claim 1 and the above arguments apply thereto *mutatis mutandis*. It is not believed necessary to repeat the above arguments in detail as they relate to a system claim format. For example, the passing cell counter 101p does not recognize when a diagnostic cell inserted into the data traffic stream passing through the datapath passes the first location neither does it track the passage of a diagnostic cell as required by claim 1. The same is true of the error counter 101n. Minami does not teach a diagnostic cell counter module that recognizes (or which is configured to recognize) when a diagnostic cell inserted into a data traffic for reasons that should be apparent from the above discussion.

Similar arguments apply to claim 15 as to claim 1, and it is not believed necessary to repeat them in respect of each recited claim element. Claim 15 does not expressly refer to the step of

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inserting cells into an active data stream, but it does nevertheless include the novel steps inserting the diagnostic cells into the datapath and tracking passage of the diagnostic cells with a diagnostic cell counter.

With regard to the dependent claims, the Examiner's arguments rely in part on the alleged teaching in Minami of inter alia the presence of diagnostic cells, something the applicant's vehemently deny. Thus the Examiner's attempt to read the teachings of Minami into the many of the dependent claims, in the applicant's respectful submission, fails for this reason. The applicants will discuss selected dependent claims for brevity since it is believed that the dependent claims are not anticipated by virtue of their dependency on base claims that are not anticipated. They are also believed to contain additional features also not present in Minami.

For example, with particular reference to claim 2, the Examiner appears to equate the passing-cell counter 101p to the diagnostic cell counter module, but this counter in Minami counts all cells, not the diagnostic cells. The term "tracks passage" in relation to a counter must mean that some special distinction is made for the diagnostic cells. For example, if red and white balls come out of a gate, no reasonably person using natural language would regard a counter that counted all the balls without distinction as to whether they were red or white to be considered to be "tracking passage" of the red balls. The Examiner has made no attempt to indicate why the cells of Minami would be considered *diagnostic* cells within the meaning of the present application. In the absence of such teaching there can be no tracking step.

With regard to claim 4, there has to be a second diagnostic cell counter module provided at a second location in the data path. The Examiner has located the passing-cell counter 101p with this second cell counter. Passing-cell counter 101p is certainly closer to the diagnostic cell counter module of the invention, in that unlike error counter 101n, it does at least count passing cells. However, it counts all cells, including customer cells. It does not track passage of diagnostic cells. Also, it does not track cells at a different location from a first cell counter.

While the error counter 101n does not appear to be a cell counter for the reasons stated, to the extend that it counts errors in cells, rather than SONET/SDH frames, it takes its source from the same location as the passing cell counter.

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With regard to claim 14, Minami discloses a timer that at fixed intervals applies an interrupt to cause the units 101 to 105 to send error information which has been collected by the method described in detail in Minami. Claim 14 is dependent on claim 13, which requires a diagnostic cell to be extracted at a location downstream from the second location, and requires an error condition to be noted when a present time has elapsed prior to extraction of the diagnostic cell from the extraction location. Minami does not in any way teach timing the extraction of cells. The timer 106a merely instructs the software to send the intra-office cells at fixed intervals. There is no teaching of timing the *extraction* of such cells, which the applicant does not accept are diagnostic cells within the meaning of the claims. The Examiner's attempt to fit the teaching of Minami into the wording of claim 14, for example, does not, in the applicant's respectful submission, stand up to scrutiny.

It is noted that the Examiner's entire rejection is based on 35 USC 102(b). The applicants are only required to address issues raised by the Examiner. The applicants have not therefore addressed any issues that may or may not arise under 35 USC 103(a).

With regard to the double patenting objection, the applicants note that it is only provisional in view of the pendency of the cited application. Pursuant to MPEP 822.01, it is noted that if "provisional double patenting objections" are the only remaining objections the Examiner should withdraw the rejection in one of the applications and permit the application to issue as a patent, while maintaining it in other application. Without prejudice to their position on double-patenting, the applicants therefore respectfully request the Examiner to permit this application to issue as a patent, and if he believes it appropriate raise such an objection in respect of the co-pending application, in which case the applicants will address the rejection at that time in connection with the co-pending application.

In summary, the present invention relates to a fundamentally different concept not contemplated by Minami wherein special cells, known as diagnostic cells, which are distinguished from customer cells, are inserted into the data traffic, and wherein the faults are identified by tracking the passage of the diagnostic cells. Minami on the other hand does not suggest identifying faults by inserting and tracking package of such special cells. Minami just detects errors in ordinary cells, and then uses special cells, known as intra-office cells, to convey information about the



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errors that have been detected. Minami does not use the intra-office cells for diagnostic purposes, and as such they cannot be regarded as diagnostic cells.

For the reasons herein set forth, it is believed that this application is not anticipated pursuant to 35 USC 102(b). Allowance and reconsideration are therefore earnestly solicited.

Respectfully submitted,



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